1. "Allowable" Claims

This section concerns claims (or aspects of claims) which the non-final rejection indicated may be allowable if suitably rewritten.

displaying parameters as colored nodes within a belief network (Claim 4)

Anticipated by:

- QuestMap (1992)
- Reason!Able (2000)
- Athena (2002)

using brightness, hue or saturation to represent confidence values (Claim 4)

Anticipated by:

- Reason!Able (2000)

having supporting, detracting and neutral hypotheses, and associating these with colors (Claim 4)

Anticipated by:

- Reason!Able (2000)
- Athena (2002)

displaying influence parameters as connectors (Claim 8)

Anticipated by:

- QuestMap (1992)
- Reason!Able (2000)
- Athena (2002)

representing the magnitude of the influence parameter with a spatial dimension (Claim 8)

Anticipated by:

- Athena (2002)

collapsing nodes to reduce the size of the argument (Claim 9)

Anticipated by:

- QuestMap (1992)

- Reason!Able (2000)
- Athena (2002)

a simulation function that alters at least one parameter according to a series of values, representing changes over time (Claim 1; orig. 11; Claim 25; Claim 29)

The basic idea here is very well known in the field now known as dynamic Bayesian networks. A classic reference on this is:

- 1989 Tom Dean and K. Kanazawa A model for reasoning about persistence and causation. *Computational Intelligence* vol 5 p.142-150

displaying confidence values qualitatively via a non-numerical node quality (Claim 16; orig. 17)

Anticipated by:

- Reason!Able (2000)

displaying confidence values using the relative saturation of node color (Claim 18)

Anticipated by:

- Reason!Able (2000)

displaying confidence values using a quantitative display (Claim 19)

Anticipated by:

- Athena (2002)

using a continuous line graph and slider for selecting a value (Claim 21)

Anticipated by:

- Reason!Able (2000) (slider not continuous, but a continuous one is an obvious variation, rejected by the developers of Reason!Able because the continuous approach has usability problems)

having a means for scaling the display to a desired size (Claim 26; orig. 28)

Anticipated by:

- QuestMap (1992)
- Reason!Able (2000)
- Athena (2002)

2. New Claims

This section concerns claims which appeared in the amended set of claims submitted after the non-final rejection.

A system for editing and displaying a structured argument, having a plurality of associated parameters, the system comprising: a user interface that graphically displays the plurality of hypothesis at a user-accessible display and received input from a user defining the value of a selected parameter, wherein the plurality of hypotheses are displayed as colored nodes (Claim 30)

Anticipated by:

- QuestMap (1992)
- Reason!Able (2000)
- Athena (2002)

a computational engine that alters the selected parameter to the defined value, updates the plurality of parameters according to the defined value of the selected parameter, and provides the altered parameters to the user interface, such that the display is updated in real time to reflect the user input (Claim 30)

The basic idea here is very well known in the field now known as dynamic Bayesian networks. A classic reference on this is:

- 1989 Tom Dean and K. Kanazawa A model for reasoning about persistence and causation. *Computational Intelligence* vol 5 p.142-150

Well-known Bayesian reasoning software packages such as Hugin and Netica support such functions.

A system for editing and displaying a structured argument, having a plurality of associated parameters, the system comprising a user interface that graphically displays the plurality of parameters, comprising a plurality of influence parameters representing the degree of logical relatedness between respective associated first and second hypotheses, at a user accessible display and receives input from a user defining the value of a selected parameter, wherein the influence parameters are displayed as connectors between respective first nodes, representing the associated first hypotheses, and respective second nodes, representing the associated second hypotheses, (Claim 31)

Anticipated by:

- Reason!Able (2000)
- Athena (2002)

and the magnitude of a given influence parameter is represented by at least one spatial dimension of the associated connector of the influence parameter (Claim 31)

Anticipated by:

- Athena (2002)

a computational engine that alters the selected parameter to the defined value, updates the plurality of parameters according to the defined value of the selected parameter, and provides the altered parameters to the user interface, such that the display is updated in real time to reflect the user input. (Claim 31)

See above

The system of claim 31, the plurality of parameters comprising respective confidence values for a plurality of hypotheses (Claim 31)

Anticipated by:

- Reason!Able (2000)
- Athena (2002)

The system of claim 32, at least one confidence value being displayed to a user via a first, qualitative indicator and a second, quantitative indicator (Claim 33)

Anticipated by:

- Athena (2002)

The system of claim 32, the plurality of hypotheses being displayed as colored nodes within a belief network, and the respective confidence values being represented as at least one of the brightness, hue and saturation of the color of the node. (Claim 34)

Anticipated by:

- Reason!Able (2000)